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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,930	08/29/2003	Jun Koyama	12732-164001	7988

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EXAMINER

NGUYEN, KIMNHUNG T

ART UNIT	PAPER NUMBER
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2677

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/650,930	Applicant(s) KOYAMA ET AL.	
	Examiner Kimnhung Nguyen	Art Unit 2677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/29/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This application has been examined. The claims 1-48 are pending. The examination results are as following.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 25-26, 43-44 are rejected under 35 U.S.C. 102(e) as being anticipated by Chiang (US 2002/0063674).

Regarding claims 1-2, 25-26, Chiang discloses in figs. 2, 8, a liquid crystal display device having on an insulating substrate a plurality of source signal lines ($Q_i, Q_{i+1} \dots Q_{i+4}$), a plurality of gate signal lines (see gate lines 1102, 1104, 1106, fig. 10), a plurality of pixels (see 8 colors at display quality or resolution in pixels, see 0033), and a source signal line driver circuit for driving the source signal lines, wherein the source signal line driver circuit has a plurality of analog buffer circuits (212), wherein a switching circuit is provided between the analog buffer circuits and the source signal lines, wherein the plurality of source signal lines and the plurality of analog buffer circuit constitute a circuit group, and wherein the source signal lines in the circuit group connected to the analog buffer circuits (212) in the circuit group are periodically switched by the switching circuit their connections to different circuits (see each switches 214 connected to each output are different, fig. 2).

Regarding claim 43-44, Chaing discloses further in fig. 2, wherein the switching circuit comprises an analog switching circuit (see analog buffer switch 214, see fig. 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-24, 27-42 and 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang (US 2002/0063674) in view of Youn (US 2002/0089485).

Regarding claims 3-6, 27-30, Chaing discloses in fig. 2, 3. A liquid crystal display device having an insulating substrate a plurality of pixels, a plurality of source signal lines (see source driver circuit 200 having a plurality of source signal lines (see $Q_i, Q_{i+1} \dots Q_{i+4}$), a plurality of gate signal lines (see 1102, 1104, 1106, fig. 10), and a source signal line driver circuit, the source signal line driver circuit having a plurality of analog buffer circuits (212) to drive the source signal lines, wherein a switching circuit is provided between the analog buffer circuits (212) and the source signal lines, wherein n (n is a natural number and is equal to or larger than 2, because analog switches 214 larger than 2) source signal lines and n analog buffer circuits constitute a circuit group, and wherein the source signal lines in the circuit group connected to analog buffer circuits in the circuit group are switched in every period by the switching circuit their

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connections to different circuits (see each switches 214 connected to each output are different, fig. 2).

However, Chaing does not disclose a set of n periods is periodically repeated in a random timing.

Youn discloses in figs. 3-4, a set of n periods is periodically repeated in a random timing (see a source signal line (drive data) having a inversion drive repeating in a period of two frames, see 0061).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a set of n periods is periodically repeated as taught by Youn into the system of Chaing because this would shift down every one line as frame changes and thus to eliminate flickering that may take place in the dot pattern of the device system (see 0061-0062).

Regarding claims 7-24 and 31-42, Chaing discloses further in fig. 2, wherein the analog buffer circuit (212) are source follower circuits.

Regarding claims 45-48, Chaing discloses further in fig. 2, wherein the switching circuit comprises an analog switching circuit (see 214, see fig. 2)

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number is (571) 272-7698. The examiner can normally be reached on MON-FRI, FROM 8:30 AM-5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimnhung Nguyen
January 7, 2006

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", written over the printed name and title.